

INFORMATION REPORT

**CONFIDENTIAL**

COUNTRY USSR (RSFSR)

SUBJECT Moscow Internal Grinding Machine Factory

PLACE  
ACQUIRED

DATE OF INFO.

CD NO.

DATE DISTR. 11 JAN 50

NO. OF PAGES 3

NO. OF ENCLS.  
(LISTED BELOW)

50X1-HUM

SUPPLEMENT TO  
REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE  
OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT OF  
U.S.C. 51 AND 52, AS AMENDED. ITS TRANSMISSION OR THE REVELATION  
OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PRO-  
HIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

50X1-HUM

1. The Moscow Internal Grinding Machine Factory (Moskovski Zavod Vnutrishlifovalnykh Stankov) is located near Zastava Iliche in the Kirovski district of Moscow. The factory is under the control of the Chief Administration of the Machine Tool Construction Industry of the Ministry of Machine Tool Construction.

History

2. Prior to the war, the factory was called Stankonormal and was located at 14 Kozhevnikovskaya ul., Moscow, near the Saratovskiy (Paveletskiy) Railway Station. The factory then produced a small number of internal grinding machines and a large number of machine tool fastening components (krepazhniye stankostroitelniye detali) such as bolts, nuts, screws, pins.
3. The factory was not evacuated during the war, but the type of production was changed. About half the productive capacity was devoted to the manufacture of machine tools and the remainder to the production of trench mortars and ammunition. Before the conclusion of hostilities, the factory had reverted almost entirely to the production of machine tools.
4. The Saratovskiy (Paveletskiy) Railway Station area was subjected to enemy bombing raids, and at the end of 1941 the factory moved gradually to the premises of an evacuated machine tool factory which were in a safer part near Zastava Iliche. The larger premises here made it possible for the factory to be expanded. By the middle of 1942, both the number of personnel and the output had been considerably increased.

Production

5. In 1940, prior to hostilities, the factory produced about 130 machine tools and a large number of machine tool fastening components, to a total value of 8.5 million rubles.
6. In 1945, the factory produced about 1,300 machine tools, mainly mass-produced internal grinders. Production of fastening components in small quantities was continued, mainly for the requirements of the factory rather than for outside delivery. A new Stankonormal Factory was established in Moscow for the latter purpose. In 1945, the value of the factory output was about 80 million rubles.

STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB	DISTRIBUTION									
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI										

**CONFIDENTIAL**

Document No. 2  
No Change in Class. ☐  
☐ Declassified  
Class. Changed To: TS S C  
Auth.: HR 70-2  
Date: 060678

50X1-HUM

## CENTRAL INTELLIGENCE AGENCY

- 2 -

7. At present, the factory produces about 90 percent of standard parts required and receives the remainder from outside.
8. After the war, the factory specialized entirely in the production of internal grinding machines. From year to year the designs of the machines improve and become more intricate. The factory has undertaken the production of cylinder-and-cone grinding machines, thread grinding machines, centerless grinding machines, and special semi-automatic and automatic aggregate machines.
9. Since 1949, the factory has produced chiefly special semi-automatic and automatic aggregate machines. The tools produced include the following:
  - a. Mass-produced centerless cylinder-and-cone grinding machine (bestsentrovyy krugloshlifovalny stanok) type 3180, which is used for large-scale mass production of articles. This machine is fitted with a stepless (besstupenchaty) speed regulator for hydraulic transmission. It grinds articles of 5-75 mm. diameter. Total power of motors is about 20 KW. The design of this machine is similar to that of centerless grinding machine No. 2 of the Cincinnati firm, except that the 3180 machine has a hydraulic transmission (gidroprivod) instead of a gearbox.
  - b. Mass-produced internal grinding machine type 313.
  - c. Special grinding machine type 313 S, based on the universal machine 313. Employed for grinding aeroengine valve spheres (ball valves?).
  - d. Mass-produced universal internal grinding machine type 325 D. At the end of the war, this machine was replaced by type 3250. In spite of considerable improvements introduced in the 3250 type as compared with 325 D, the number of man-hours required for the production of the 3250 machine was only 1,150, as compared with 1,750 hours required to produce a 325 D machine. This was chiefly because of a reduction in hours required for mechanical treatment and assembling and, to a small extent, to a reduction of hours required in the foundry and forge and for thermic treatment. Further improved designs reduced the number of hours by about 400. The machine thus requires about 750 hours for production at present.
  - e. Several types of special machines, based on universal machine 3250, for supply to various industries. These machines are used for internal grinding of cylinder cases of aeroengines and for grinding of various parts of motor vehicle engines.
  - f. Internal grinding machine type 325 SF, based on universal machine 3250 for grinding internal curved surfaces of conical toothed wheels for aero-engines.
  - g. Semi-automatic internal grinding machine type 3251, fitted with special mechanism for the automatic measurement of articles under treatment. This machine carries out the following operations: rough grinding, automatic control of dimensions, and subsequent setting of special grinding wheel and fine grinding. These machines are delivered to motor vehicle factories, such as the Moscow Automobile Factory i/n Stalin, Gorki Automobile Factory i/n Molotov, and others.
  - h. Machine type SHP-10, for grinding carbon steel and alloy wire of 6-10 mm. diameter in coils.
  - i. Large-scale mass-produced automatic universal thread-grinding machine type MM 582, for the production of thread-and tooth-cutting tools, gauges, screw taps, milling cutters, and, in general, parts of great precision (grinding of outside and inside thread). The letters in the designation of this machine are the initials of designer Moisei Nerpert. Distance between centers: 700 mm.; grinding length: 400 mm.; diameter for grinding outside thread: 3-200 mm.; grinding pitch: 0.5-80 mm. The machine grinds with a precision of up to two microns. These machines are delivered to tool factories and tool shops of factories of various industries (aviation, motor vehicle, tractor, armament). The machine has 2,320 parts, of which 650 are standardized. A considerable number of special thread-grinding machines and universal thread-grinding machines have been based on the above machine.

CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY

50X1-HUM

- 3 -

- j. Centerless grinding machine type 3183 N I, for grinding balls of large overall dimensions. Loading of balls is effected by a hydraulic lifting device. Grinding is done by wheels specially set on a radius. A hydraulic appliance serves for setting the wheels. The diameter of balls under treatment is 75-205 mm. Diameter of grinding wheel: 600 mm; diameter of guiding wheel: 400 mm; number of revolutions of grinding wheel: 960 per min.; number of revolutions of guiding wheel: 58 per min.; power of electric motors: 25 KW. Overall dimensions of the machine are: length 2,860 mm., width 1,525 mm., height 2,000 mm.
- k. Automatic machine type 3181 N 26, for grinding spherical nipples. The machine has a special loading device. It has six separate electric motors with total power of 12 KW for driving its main units. Grinding diameter: 20-40 mm; maximum diameter of grinding wheel: 500 mm; maximum diameter of guiding wheel: 300 mm; number of revolutions of grinding wheel: 1,200 per min.; number of revolutions of guiding wheel: 12-94 per min. Dimensions of the machine: length 2,495 mm., width 1,760 mm., height 2,340 mm.
- l. Machine type 3181 N 10, for centerless grinding of the two journals (shei) of the cross piece of the differential gear of the rear bridge (zadni most) of a motor vehicle. This machine has a special loading device. There are five separate electric motors for driving the basic units of the machine. Producing capacity: 100-150 articles per hour. The speed of rotation of the grinding wheel is constant. The speed of rotation of the guiding wheel can be changed by interchangeable toothed wheels within the limits of 12-94 revolutions per minute. Grinding diameter: 23 mm; grinding length: 42 mm; maximum diameter of grinding wheel: 500 mm; maximum diameter of guiding wheel: 300 mm. Dimensions of the machine: length 2,495 mm., width 1,760 mm., height 2,340 mm.
- m. Special centerless grinding machine for grinding conical pins (shpilki).
- n. Special machine for grinding high precision cam discs.
- o. Special machine for centerless grinding of steering gear cams of a motor vehicle, with two grindstones.
- p. Mass-produced coordinate boring machine. This is a very complicated machine which works to the precision of up to one thousandth of a millimeter. Mass production, which started at the end of May 1949, is so far on a small scale.
10. In 1948, the factory produced about 1,200 machine tools of various types. The decrease in the number of machine tools compared with 1945 is the result of the fact that the semi-automatic and automatic special aggregate machines now being produced are considerably more complicated than the machine tools produced at the earlier date. The total value of the output of the present machines is considerably greater than that of the machines produced in 1945.

#### Personnel

11. a. In 1941, the director of the factory was Suvorov. The present director is V. A. Buzin. He was preceded as director by I. K. Golubev, who, in turn, was preceded by Subbotin. Subbotin died during the first half of 1949, while director of the Moscow Grinding Machine Factory. 50X1-HUM
- b. Chief Engineer is M. A. Berman.
- c. Chief Designer is M. P. Marpert (Stalin Prize Laureate). Designers include: Yu. E. Mikhayev, A. D. Pokhorovski (Stalin Prize Laureate), M. Z. Lariye, N. A. Kiselev, A. E. Nemchenok, V. P. Soloshenko, and Menendes.
12. In 1941, personnel numbered 710; in 1945, about 2,250. The present number of personnel is about 2,300. Three shifts of eight hours each are worked.

50X1-HUM

~~CONFIDENTIAL~~  
SECRET/CONTROL-US OFFICIALS ONLY